

Fox Chase Cancer Center

Methylation & Proteomics–Based Detection of Renal Cancer

Objective

Develop a hypermethylation progression model of early renal cancer and identify the most useful markers for early diagnosis and verify that hypermethylation is a valid detection target in tissue and body fluids

Program Description

This program is focusing on the development of markers for renal cancer primarily based on differential hypermethylation of cancer DNA sequences in renal cancer and in urine of the same cancer patients as compared to healthy controls.

Specific Aims

- To construct a hypermethylation progression model and profile for early renal cancer by determining the frequency and timing of hypermethylation of the panel of cancer genes in defined pathological stages.
- To validate the methylation specific PCR (MSP) assay for detection of renal cancer cell DNA in urine from 100 organ–confined renal cancers and to examine specificity in urine from 100 normal and benign controls.
- To elucidate the methylome profile of early renal cancer.
- To examine the diagnostic utility of proteomic based detection of early renal cancer.

Contact Information

Paul Cairns, Ph.D.

> Fox Chase Cancer Center
333 Cottman Avenue
> Philadelphia, PA 1911–2497

Phone: (215) 728–5635
> Fax: (215) 728–2741
Email: P_cairns@fccc.edu